9444.1988(14)

OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE

AUG 26 1988

MEMORANDUM

SUBJECT: Guidance for Secondary Lead Smelter Variances

FROM: Sylvia K. Lowrance, Director
Office of Solid Waste

TO: Waste Management
Division Directors, Regions I-X

This memorandum provides guidance to assist you in handling variance requests you may receive from secondary lead smelters. Owners and operators of secondary lead smelters are likely to request variances from being classified as a solid waste for their lead plates and groups that are stored in storage piles. More detailed information is included in the attached report from Midwest Research Institute. Questions in this area should be addressed to Filomena Chau or Mike Petruska at FTS 382-4795 or 475-8551.

A. General.

Section 260.30(c) provides that the Regional Administrator may grant a variance from classification as a solid waste for those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is "commodity-like." This determination is to be based on five factors specified at Section 260.31(c)(1)-(5), and "other relevant factors" (pararaph (c)(6)).

Secondary lead smelters reclaim lead from spent lead acid batteries (a characteristic hazardous waste). An intermediate step in this reclamation process is the breaking and component separation of batteries, which results in partially-reclaimed lead-bearing material known as "plates" and "groups." These materials may be stored in piles and subsequently fed to blast or reverberatory furnaces for re-smelting. Under certain

conditions, these plates and groups may meet the criteria in Section 260.31(c) and, therefore, would not be a solid or hazardous waste.

In some instances, the granting of a variance for plates and groups could lead to a smelter becoming exempt from the need to comply with the interim status requirements or obtain a permit. For example, if a smelter can set up an operation where incoming batteries are introduced directly into the recycling operation without prior storage, and where emission control dust (K069) is recycled either without storage or stored under Section 262.34, the smelter would have no activities subject to permitting (absent the plate and group storage pile).

B. Factors 1-4.

After analysis of a considerable body of information, OSW has determined that secondary lead smelters on a national (or "generic") basis meet the criteria of Section 260.31(c)()-(4). The basis for this determination is summarized below. (For more details, see the attached draft report from Midwest Research Institute (MRI).)

> The first factor (paragraph (c)(1)) is the degree of processing a material has undergone and the degree of further processing that is required (for the resulting material to be "commodity-like"). Available information indicates that the battery-breaking and component separation steps can be labor-intensive and often represent a significant percentage of the resources required to recycle a battery; we would view these steps, then, to account for a substantial amount of processing.
>
> The second factor (paragraph (c)(2)) is the value of the material after initial reclamation. We have determined that plates and groups do have significant market value, i.e., prices for plates and groups are listed in industry publications, and until recently smelters have purchased large amounts of plates and groups from independent battery breakers.
>
> The third factor (paragraph (c)(3)) is the degree to which the reclaimed material is like an analagous raw

material. We have determined that plates and groups are similar to galena ore in terms of lead concentration, and based on available data do not contain significant amounts of hazardous constituents not found in galena. (Arsenic concentrations do appear to be slightly higher in the plates and groups, but we note that small amounts of arsenic are viewed as desirable in secondary lead smelting as an alloying metal; therefore, our determination is that the slightly higher arsenic concentrations in lead plates and groups do not change the conclusion that it is substantially comparable in composition to galena ore.)

The fourth factor (paragraph (c)(4)) is the extent to which an end market for the reclaimed material is guaranteed. Typically, secondary lead smelters break and separate batteries at the smelter site. This arrangement provides an end market for the partially reclaimed material because it is unlikely a smelter would close without processing remaining plates and groups. We do not, however, reach such a conclusion for independent battery breakers. The end market value for their broken batteries is heavily dependent on lead prices, and has been very insecure for the past several years.

C. Storage and Handling Practices.

Section 260.31(c)(5) identifies as a factor, "the extent to which the reclaimed material is handled to minimize loss." OSW reviewed information on plate and group storage and handling practices at most secondary lead smelters in the U.S. We are unable to reach any conclusions on a national basis for this industry because the available information indicates a wide variation in practices (i.e., some smelters store the lead plates and groups in a manner that minimizes loss while others do not). Each smelter facility will have to be evaluated individually to determine if the standard in paragraph (c)(5) is achieved. Factors that Regional (or State) personnel may want to consider include:

Whether the storage pile is under a roof;

Whether the pile is on an impervious base, e.g., coated concrete;

Whether the runoff controls are in place, e.g., retaining walls, drainage collections, etc.;

Whether wind dispersion controls, e.g., sprinklers, vents, etc., are in place.

Plate and group piles may be evaluated in a manner similar to those hazardous waste piles considered for the limited exemption under 40 CFR Section 264.250(c), which calls for consideration of these same sorts of factors.

Also relevant is a comparison of storage and handling practices at the secondary lead smelters to handling practices employed by primary lead smelters for galena ore. Available information indicates that galena ore is always stored under cover, but galena storage areas are not always totally enclosed. Therefore, some outdoor plate and group storage areas may meet the paragraph (c)(5) factor without being enclosed in a building, but a plate and group pile without any cover would appear much less likely to satisfy the "minimize loss" criterion.

Finally, while concrete pads are the norm for plate and group storage areas, typically the top layers of these pads (which may be an asphalt liner_ become damaged by the acid remaining on the plates and groups, and by front-end loader traffic and, therefore, have to be periodically replaced. Normal maintenance of a plate and group pad includes periodic replacement of the top (i.e., "sacrificial") layers. Therefore, part of the paragraph (c)(5) evaluation should include a review of the smelter's pad replacement schedule. Consideration should be given to requirements for coating and concrete pads with an acid resistent material.

In summary, a plate and group pile that is stored under cover, where run off and wind disposal is controlled, and where pad replacement prevents soil contamination, would appear to meet the paragraph (c)(5) "minimize loss" criterion.

D. Other Relevant Factors.

Under Section 260.31(c)(6), the Regional Administrator may consider other relevant factors in the determination of whether to grant the variance. These factors may be raised by the petitioner, the Agency, or other interested parties. As OSW has evaluated information on secondary lead smelters, the following additional factors have been raised as potential concerns. Although these factors may not be directly applicable to the Regional Administrator's decision to grant a variance, they may be relevant in, for example, assigning priorities to evaluate a facility's petition.

1. Economics of battery recycling. Recent EPA studies indicate that national battery recycling rates, while apparently stable at this time, have experienced a long term decline over the past 30 years. The result is that more batteries are disposed of, often in municipal landfills. In addition, loss of recycling capacity (i.e., smelter closures) has placed generators in some regions (e.g., the Pacific northwest) in the position where they must transport batteries long distances to recycle. This obviously adversely affects recycling rates. Environmental compliance costs may be a major component of a secondary smelter's capital and operating expenses. The next few years may be critical for many of these smelters, as they face the choice of full RCRA compliance and permitting versus facility closure. Prompt processing of variance petitions may allow well-run operations, for example, to expand operations without the need for a permit modification (or perhaps without a permit at all), and thereby maintain or increase regional recycling rates, even if other facilities close.

2. Corrective action. Facilities in the secondary lead smelting industry have had problems in the past and some are currently involved in clean-up activities. One implication of granting a variance is that certain facilities, as noted above, may become exempt from permitting and interim status requirements an, therefore, the corrective action provisions of RCRA Section 3004(u) and 3008(h) would no longer apply (CERCLA Section 106 and RCRA Section 7003 actions would not be affected by granting the variance.) The Regional Administrator may want to consider the need for clean-up at a site under paragraph (c)(6), or at least in the timing of when a variance is granted. For example, final granting of a variance could be considered as part of clean-up action at the facility.

In summary, disposal of spent lead-acid batteries is becoming a serious national problem. One means to increase battery recycling rates is to exclude plate and group storage piles at those secondary lead smelter facilities that meet the Section 260.31(c) criteria from classification as solid waste. If a secondary lead smelter facility stores and handles its plates and groups in a manner that minimizes losses and otherwise runs a sound operation (as evidenced by, for example, clean-up of past releases), OSW would deem it appropriate and certainly consistent with national policy for the Regional Administrator to grant the solid waste variance.

Attachment